

USSR

MISULOVIN, L. YA., *Elektrosvyaz'*, No 5, 1971, pp 25-30

The conductors are "laid" simultaneously, the flux is applied and all points are soldered simultaneously), processing by a medium (for example, exposure of photographic film, pickling, and drying), and processing by patterns and masks (photolithography, and so on) are discussed.

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USSR

UDC: 621.315.616.97

MISURKIN, O. G., VITOL, M. P., SHAIPOVA, I. R., MATVEYEVA, I. A.

"A Compound for Potting Semiconductor Devices"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 19, 1970, Author's Certificate No 272437, filed 14 Jan 69, p 60

Abstract: This author's certificate introduces a compound for potting semiconductor devices based on epoxy resin. As a distinguishing feature of the patent, the moisture-resistant properties of the coating are improved by using boric anhydride as the hardener with the following proportion of components (in parts by weight): epoxy resin--100; boric anhydride--5-10; a filler such as titanium dioxide, red lead or zirconium oxide--15-50; silicon powder--1-5; plasticizers and modifiers such as epoxy resin, polyesters and acrylates--1-20; carbon black--1-3.

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USSR

UDC: 519.2

MISYAVICHUS, G. A.

"Asymptotic Expansion for Characteristic Functions of Sums of the Type $\sum \phi(2^k t)$ "

Lit. mat. sb. (Lithuanian Mathematics Collection), 1972, 12, No 1, pp 181-193 (from RZh-Kibernetika, No 10, Oct 72, Abstract No 10V52 [author's abstract])

Translation: Let T_t be transformation of the interval $(0,1)$ into itself, given by the relation $T_t = \{2t\}$, where $\{a\}$ denotes the fractional part of a .

Let $\phi(t)$ be periodic with period 1 with

$$\int_0^1 \phi(t) dt = 0.$$

We set

$$S_n = \sum_{j=0}^{n-1} \phi(T^j t), \quad B_n^2 = \int_0^1 S_n^2 dt, \quad I_Z(t) = \int_0^1 e^{itZ(\tau)} d\tau,$$

$$Z_n = \frac{S_n}{B_n},$$

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MISYAVICHUS, G. A., Lit. mat. sb., 1972, 12, No 1, pp 181-193

Let the following conditions be satisfied for $\phi(t)$: a) there exists an absolute moment of order $s + \delta$, $s \geq 3$ is a whole number, $0 < \delta < 1$; b) for certain A and $\gamma > 10$ we have

$$\int_0^1 |\phi(t+h) - \phi(t)|^2 \leq A \log^{-\gamma} h^{-1},$$

c) $B_n \rightarrow \infty$. Then for any $0 < \alpha < \infty$ in the interval

$$|t| < a \sqrt{\ln \left(1 + L_{sn}^{-\frac{1}{s-2}} \right)}$$

we have the expansion

$$f_{Z_n}(t) = e^{-\frac{t^2}{2}} \left(1 + \sum_{\nu=1}^{s-3} P_{\nu n}(it) L_{sn}^{\frac{\nu-2}{s-2}} + \right. \\ \left. + \theta_{\delta}^{(1)} (|t|^{\delta} + |t|^{2s-2}) L_{sn} \right) + \theta_{\delta}^{(2)} |t| L_{sn}.$$

2/3

USSR

MISYAVICHUS, G. A., Lit. mat. sb., 1972, 12, No 1, pp 181-193

where

$$L_{sn} = \left(\int_0^1 |\varphi(t)|^2 dt \cdot n^{\frac{s(s-1)}{2-1+s}} \right) B_n^{-s},$$

$P_{vn}(it)$ is a polynomial relative to it with coefficients which are uniformly bounded relative to n . The resultant expansion is used for estimating residual terms in the central limit theorem.

3/3

USSR

UDC 541.13:541.128

DAVTYAN, O. K., and MISYUK, E. G., Odessa State University Imeni I. I. Mechnikov

"The Mechanism and the Kinetics of Current-Forming Processes in Electrochemical Burning of Gases. XIII. Mechanism and Activation Energy of Hole Transitions in Semiconductor Oxides and Their Role in the Catalytic Oxidation Processes"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 45, No 1, Jan 71, pp 55-60

Abstract: A mechanism of electroconductivity and of catalytic activity is proposed. The semiconducting and catalytic properties of solid solutions obtained from varying valence metal oxides are related to the formation of hole complexes which include a labile oxide ion bound to the hole. Hole transition occurs via the formation of a monovalent oxide ion. The transition energy of the oxide ion into the active state represents the activation energy of electroconductivity and the catalytic processes taking place on the surface of the oxides studied. An equation has been developed for theoretical calculation of the energy of activation for such processes. It has been shown that with increased concentration of lithium ion the activation energy should drop initially, to be followed by a trend towards a constant value.

1/1

1/2 033 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--MECHANISM AND KINETICS OF CURRENT GENERATING PROCESSES OF THE
ELECTROCHEMICAL COMBUSTION OF CASES. XII. ELECTROCHEMICAL ACTIVITY AS
AUTHOR--(03)--MISYUK, E.G., DAVTYAN, O.K., YAMPOLSKAYA, L.P.

COUNTRY OF INFO--USSR M

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 468-71

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ELECTROCHEMICAL COMBUSTION, POROSITY, ELECTRODE DESIGN,
SURFACE PROPERTY, ACTIVITY COEFFICIENT, LITHIUM, POTASSIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1987/0859

STEP NO--UR/0076/70/044/002/0468/0471

CIRC ACCESSION NO--AP0104295

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0104295

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF THE POROUS STRUCTURE AND ELECTROCHEM. ACTIVITY OF NI ELECTRODES, WHICH HAD BEEN ACTIVATED BY 2 BRIEF TREATMENTS WITH HYDRATED OXIDES (OF LI AT 700, 800, AND 900DEGREES FOLLOWED BY THAT OF K AT 400DEGREES) SHOWED THAT AT A GIVEN ACTIVATION TEMP. THE ELECTROCHEM. ACTIVITY WAS PROPORTIONAL TO THE MAGNITUDE OF THE ACTIVE SURFACE. THE MAX. VALUE OF ACTIVE SURFACE WAS VIRTUALLY IDENTICAL WITH THE MAX. DISTRIBUTION OF SURFACE PORES ACCORDING TO THEIR RADII. TREATMENT AT 800DEGREES GAVE THE MAX. ELECTROCHEM. ACTIVITY.

UNCLASSIFIED

USSR

VOLKOV, G. A., MISYUK, I. A., and PETRUSHENKO, V. V., Leningrad

"The Bioelectric Reaction of Plant Cells to Light"

Kishinev, Elektronnaya Obrabotka Materialov, No 2, 1971, pp 65-68

Abstract: The mechanism by which a sudden illumination of *Nitella flexilis* increases the resting potential across its plasmalemma by about 60 mV was investigated to link the absorption of light which occurs in chloroplasts and the response which occurs on the external cytoplasmic membrane. By comparing known theories and facts with their own experimental results (recording of resting potentials from *Nitella flexilis* plasmalemma in darkness and light with and without addition of photosynthesis inhibitors and cofactors and of bicarbonates), the authors conclude that bicarbonate is involved in both reactions, those occurring in chloroplasts and those taking place in the plasmalemma. In light, intracellular bicarbonate is drawn (either directly or after being converted into carbonic acid) into the Calvin cycle, its intracellular concentration decreases, its concentration gradient across the plasmalemma changes, and the latter produces the effect of a temporary increase in the plasmalemma's permeability to bicarbonate.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--APPROACHES IN THE AUTOMATIZATION OF THE DIAGNOSTIC PROCESS -U-
AUTHOR--MISYUK, N.S. M
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIARTII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 4, PP 532-537
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIAGNOSTIC METHODS, ALGORITHM, BRAIN, BLOOD CIRCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1665

STEP NO--UR/0246/70/070/004/0532/0537

CIRC ACCESSION NO--AP0106411

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--09OCT70

2/2 020

CIRC ACCESSION NO--AP0106411
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHOR HAS ELABORATED ONE VARIETY OF A LOGICO PROBABILITY ALGORITHM FOR THE DIAGNOSIS OF HUMAN DISEASE BY A COMPUTER. IT WAS ACCOMPLISHED FOR THE DIFFERENTIAL DIAGNOSTIC OF BRAIN TUMORS IN 632 PATIENTS AND FOR ACUTE CEREBRAL DYSIRCULATORY DISTURBANCES IN 100 PATIENTS. THE EXACTNESS OF DIAGNOSIS IN DIFFERENT GROUPS WAS DIFFERENT AND FLUCTUATED IN THE LIMITS OF 80-90PERCNET. A SPECIAL TABLE AND 2 FORMALIZED DOCUMENTS ARE PROPOSED FOR A DIFFERENTIAL EXPRESS DIAGNOSIS OF ACUTE DISTRUBANCES OF CEREBRAL CIRCULATION. THEIR AUTOMATIC PROCESSING IS ACCOMPLISHED BY A SPECIAL DEVICE BLANK, WITHOUT AN INTERMEDIATE CARRIER OF INFORMATION (PUNCHCARD, PUNCHTAPE). IT IS THE OPINION OF THE AUTHOR THAT AN AUTOMATIZATION OF THE DIAGNOSTIC PROCESS IS ONE OF THE WAYS FOR THE IMPROVEMENT OF DIAGNOSIS AND PROGNOSIS OF THE DISEASE.

UNCLASSIFIED

MEDICINE

Diagnosis

USSR

UDC 616-07:65.011.56

M
MISYUK, N. S., Chair of Nervous Diseases, Minsk Medical Institute

"Ways of Automating the Diagnostic Process"

Moscow, Zhurnal Nevropatologii i Psikiatrii imeni S. S. Korsakov, No 4, 1970,
pp 532-537

Abstract: There are in general two approaches to computer-assisted diagnosis of disease. The first involves the computer's finding among the records case histories similar or identical to that presented by a given patient. It requires an ample file of relevant case material and programming the computer to search for the closest clinical precedents. The second approach is based on a logical-probability algorithm or matrix containing a list of all diagnoses and associated symptoms as well as a weighting of the symptoms for particular diseases. The computer programmed to follow this algorithm simulates the thinking of a physician. It analyzes and weights the symptoms and then prints out the most probable diagnoses of the case under consideration. The algorithm prepared by the author was tested on 632 patients with brain tumors and 100 with various cerebrocirculatory disorders and found to be 80-90 percent accurate. Mathematical evaluation of the severity of the vascular disorders was worked out on
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USSR

MISYUK, N. S., Zhurnal Nevropatologii i Psikhiatrii imeni S. S. Korsakov, No 4, 1970, pp 532-537

the basis of 32 symptoms. It provided a correct prognosis for 98 of the 100 patients.

2/2

1/2 031 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--KINETICS OF CARBON OXIDATION DURING THE BLOWING OF METAL IN AN OPEN
HEARTH FURNACE BATH. 2 -U-
AUTHOR--(03)-SEMIKIN, I.D., CHELYADIN, M.M., MISYURA, I.G.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 65-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--OXIDATION KINETICS, LOW CARBON STEEL, OPEN HEARTH FURNACE, GAS
JET, OXYGEN, CHEMICAL EQUILIBRIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0817 STEP NO--UR/0148/70/013/004/0065/0067
CIRC ACCESSION NO--AT0132908
UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132908

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREVIOUSLY (S., ET AL., 1970) THE DEPENDENCES WERE OBTAINED DESCRIBING THE KINETICS OF OXIDN. OF C DURING BLOWING OF THE METAL WITH A FINAL C CONTENT GREATER THAN OR EQUAL TO 0.2PERCENT. IN CASE OF BLOWING OF LOW C (LESS THAN 0.2PERCENT C) STEELS, THERE TAKES PLACE A SLOWING DOWN IN THE OXIDN. RATE OF C AS A RESULT OF AN INCREASE IN THE EQUIL. CONC. OF O IN THE METAL. UPON A FURTHER DECREASE IN THE TOTAL C CONTENT ITS OXIDN. DECREASES. IN THE INITIAL PERIOD THE O LED INTO THE BATH IS PARTIALLY USED FOR THE OXIDN. OF C, AND PARTIALLY IT IS TAKEN UP BY THE SLAG IN THE FORM OF FEO, WHICH IS WHY V SUBC BECOMES MAS. ONLY AFTER ATTAINING A CERTAIN MAX. FEO CONC. THIS PERIOD CAN PARTIALLY OR TOTALLY BE ABSENT, IF AT THE BEGINNING OF THE BLOWING THE FEO CONC. IN THE SLAG CORRESPONDS TO THE REGULAR CONDITIONS. UNDER REGULAR CONDITIONS THE O IN THE SLAG DOES NOT INCREASE AND THE RATE OF OXIDN. OF C IS DETD. FOR ALL PRACTICAL PURPOSES BY THE INTENSITY OF THE BLOWING. THE LATTER (ERD) PERIOD IS DISTINGUISHED FROM THE PREVIOUS TWO BY A SHARP DECREASE IN V SUBC, WHICH IS CAUSED BY INTENSE OF THE O IN THE METAL AND THE SLAG. THE DECREASE IN V SUBC BECOMES VERY SIGNIFICANT AT C CONC. LESS THAN 0.2-0.3PERCENT, WHICH IS WHY HTE 3RD PERIOD IS POSSIBLE ONLY IN THE CASE OF BLOWING OF LOW C STEELS. THE EQUATIONS OBTAINED HEREIN FOR THE DETN. OF V SUBC AND THE RATE OF INCREASE OF FEO IN THE SLAG ARE APPLICABLE FOR OPEN HEARTH AND FOR CONVERTER PROCESSES. FACILITY: DNEPROPETROVSK. MET. INST., DNEPROPETROVSK, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--2300170
TITLE--KINETICS OF CARBON OXIDATION DURING THE BLOWING OF A METAL IN AN
OPEN HEARTH FURNACE BATH -U-
AUTHOR--(03)-SEMIKIN, I.D., CHELYADIN, M.M., MISYURA, I.G.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVEO., CHERN. MET. 1970, 13(2), 43-6
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--OPEN HEARTH FURNACE, STEEL MANUFACTURING PROCESS, SLAG,
OXIDATION, CARBON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1394 STEP NO--UR/0148/70/013/002/0043/0046
CIRC ACCESSION NO--AT0120187
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0120187

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE KINETICS ARE DISCUSSED BY ASSUMING THAT THE METAL AND SLAG REPRESENT BODIES OF "IDEAL MASS TRANSFER" (OWING TO THE INTENSIVE INTERMIXING BY THE BLAST). EQUATIONS ARE DERIVED FOR: (1) THE RATE OF C OXIDN., (2) THE AMT. OF C REMOVED DURING THE TIME OF BLASTING, AND (3) THE RATE OF D TRANSFER FROM THE SLAG INTO THE METAL. THESE EQUATIONS CAN BE USED UP TO A C CONCN. OF 0.2PERCENT IN THE METAL. FACILITY: DNEPROPETROVSK. MET. INST., DNEPROPETROVSK, USSR.

UNCLASSIFIED

USSR

UDC 621.317.08

MISYURA, V. A., PIVEN', L. A., LITVINENKO, O. A., SOMOV, V. G.,
NABOKA, A. M., SURKOV, A. K., and KARATEYEV, N. G.

"Mobile Radio Ionosphere Complex for Investigating the Ionosphere
and Radio Wave Propagation"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio
Waves; Report Theses; Section 3--collection of works) "Nauka,"
1972, pp 104-108 (from RZh--Radiotekhnika, No 10, 1972, Abstract
No 10A427)

Translation: A mobile radio ionosphere complex, developed in the
Khar'kov University for complex investigations of the ionosphere
and the propagation of radio waves by the method of vertical prob-
ing and the method of single-frequency and multifrequency differen-
tial Doppler and Faraday effects in satellite and rocket signals,
is described. The mobility of the complex permits, in addition to
conducting independent measurements, combination measurements with
devices for noncoherent scattering and with experiments using geo-
physical and meteorological rockets, as well as various shortwave
ranges and the like. Resume

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USSR

UDC 621.317.77

MISYURA, V. A., PIVEN', I. A., SURKOV, A. K., SONOV, V. G.,
KARATEYEV, N. G., ZAGVOZDKIN, B. V., NABOKA, A. M., LITVINENKO,
O. A., and KAPANIN, I. I.

"Systems of Phase and Doppler Measurements in a Mobile Radio
Ionosphere Complex"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl.
Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio
Waves; Report Theses; Section 3--collection of works) "Nauka,"
1972, pp 109-113 (from RZh--Radiotekhnika, No 10, 1972, Abstract
No 10A426)

Translation: A device for phase probing and a system for recording
the Faraday and Doppler effects in artificial earth satellite sig-
nals and rockets, including a series of multichannel receiver and
recorder devices operating at two, three, and four coherent fre-
quencies (20, 40; 24, 48, 144; 20, 30, 90, 180; 150 and 400 MHz,
and others), are described. The difference between the phase
probing system and those now known is the separation of the mea-
sured phase differences with a heterodyne frequency and consequent
narrow-band filtration. Resume
1/1

1/2 049 UNCLASSIFIED PROCESSING DATE---20NOV70
TITLE--DETERMINING IONOSPHERIC EFFECTS ARISING DURING THE PROPAGATION OF
RADIO WAVES FROM SPACED POINT REGISTRY OF THE FARADAY AND DOPPLER
AUTHOR--(05)--MISYURA, V.A., KROKHMALNIKOV, YE.B., ZINCHENKO, G.N.,
BIRYUKOV, G.A., GRIDIN, A.N.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, GEOMAGNETIZM I AERONOMIYA, VOL X, NO 3, 1970, PP 428-434
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, NAVIGATION, MISSILE TECHNOLOGY
TOPIC TAGS--RADIO WAVE PROPAGATION, IONOSPHERIC DISTURBANCE, GEOPHYSIC
ROCKET, RADIO TRANSMITTER, DOPPLER EFFECT, FARADAY EFFECT, COHERENT
SIGNAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0549 STEP NO--UR/0203/70/010/003/0428/0434
CIRC ACCESSION NO--AP0132735
UNCLASSIFIED

2/2 049

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132735

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THIS PAPER DESCRIBES A METHOD FOR DETERMINING THE EFFECTS ARISING DURING RADIO WAVE PROPAGATION IN THE IONOSPHERE. THE AUTHORS GIVE INFORMATION ON VERTICAL IONOSPHERIC REFRACTION, IONOSPHERIC CORRECTIONS FOR THE OPTICAL AND GROUP PATH AND CORRECTIONS FOR THE DOPPLER SHIFT IN THE FREQUENCY OF COHERENT RADIO WAVES EMITTED BY TRANSMITTERS CARRIED ON GEOPHYSICAL ROCKETS. MORNING MEASUREMENTS WERE MADE AT FREQUENCIES OF 48 AND 144 MC-SEC IN SEPTEMBER AND OCTOBER 1965 IN THE MIDDLE LATITUDES OF THE SOVIET UNION FROM THREE STATIONS LOCATED SIMILAR TO 200 KM FROM THE ROCKET LAUNCHING POINT. THE RESULTS OF MEASUREMENTS OF THE REDUCED PHASE DIFFERENCE AND THE REDUCED DIFFERENCE IN DOPPLER FREQUENCY SHIFTS, AS WELL AS THE ROCKET SIGNAL FARADAY EFFECT AT TWO COHERENT FREQUENCIES, ARE GIVEN.

UNCLASSIFIED

1/2 039 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MEASUREMENT OF IONOSPHERIC PARAMETERS FROM THE DOPPLER AND FARADAY
EFFECTS OF COHERENT SIGNALS FROM GEOPHYSICAL ROCKETS RECORDED AT WIDELY
AUTHOR--(05)--MISYURA, V.A., KROKHMALNIKOV, YE.B., ZINCHENKO, G.N.,
FIRSAKOV, A.S., SLUTSKER, S.M.
COUNTRY OF INFO--USSR

SOURCE--GEOMAGNETIZM I AERONOMIYA, VOL. 10, NO. 2, 1970, P. 244-249

DATE PUBLISHED--70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MISSILE TECHNOLOGY

TOPIC TAGS--GEOPHYSIC ROCKET, VERTICAL PROFILE, IONOSPHERE, IONOSPHERIC
STATION, ELECTRON DENSITY, DOPPLER EFFECT, FARADAY EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0145

STEP NO--UR/0203/70/010/002/0244/0429

CIRC ACCESSION NO--AP0119141

UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0119141

ABSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. APPLICATION OF A DIVERSITY RECEPTION TECHNIQUE TO THE DETERMINATION OF VERTICAL ELECTRON CONCENTRATION PROFILES, HORIZONTAL GRADIENTS, AND THE INTEGRAL ELECTRON CONTENT IN A VERTICAL IONOSPHERIC COLUMN AT HEIGHTS ON THE ORDER OF 500 KM. THE PARAMETERS OBTAINED ARE COMPARED WITH SIMULTANEOUS IONOSPHERIC SOUNDING DATA OBTAINED AT SEVERAL IONOSPHERIC STATIONS LOCATED AT DIFFERENT POINTS AROUND THE LAUNCHING SITE.

UNCLASSIFIED

1/3 043

UNCLASSIFIED

PROCESSING DATE--020CT70

TITLE--MEASUREMENT OF TOTAL ELECTRON CONCENTRATION IN THE POLAR IONOSPHERE
DETERMINED FROM SIGNALS OF THE THIRD ARTIFICIAL EARTH SATELLITE,
AUTHOR--(04)-SOLODOVNIKOV, G.K., MISYURA, V.A., MIGUNOV, V.M., GURBACHEV,
I.I.

COUNTRY OF INFO--USSR, ANTARCTICA

SOURCE--MOSCOW, GEOMAGNETIZIM I AERONOMIYA, VOL X, NO 2, 1970, PP 334-336

DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, ATMOSPHERIC SCIENCES, SPACE
TECHNOLOGY, NAVIGATION

TOPIC TAGS--IONOSPHERE, POLAR AREA, ELECTRON DENSITY, SOLAR ACTIVITY,
ARTIFICIAL EARTH SATELLITE, ANTARCTIC STATION, SIGNAL
RECEPTION/(U)SPUTNIK 3 SATELLITE, (U)MIRNYY ANTARCTIC STATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1990/1662

STEP NO--UR/0203/70/010/002/0334/0336

CIRC ACCESSION NO--AP0109656

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/3 043

CIRC ACCESSION NO--AP0109656
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THIS PAPER GIVES THE RESULTS OF DETERMINATIONS OF THE TOTAL ELECTRON CONTENT IN THE POLAR IONOSPHERE OF BOTH HEMISPHERES DURING THE PERIOD OF HIGH SOLAR ACTIVITY ON THE BASIS OF DATA ON THE FARADAY EFFECT OF SIGNALS OF THE THIRD ARTIFICIAL EARTH SATELLITE AT A FREQUENCY OF 20 MC-SEC REGISTERED AT MURMANSK AND MIRNYI DURING THE PERIOD MAY-JULY 1968. AES SIGNALS WERE PICKED UP WITH PLAN POLARIZED ANTENNAS. DATA FROM 210 OBSERVATIONS AT MURMANSK AND 106 OBSERVATIONS AT MIRNYI WERE PROCESSED. THE RECORDS WERE DISTINCTLY DIFFERENT FROM THOSE FOR THE MIDDLE LATITUDES. WHEREAS FOR THE MIDDLE LATITUDES THERE IS USUALLY A CLEARLY EXPRESSED MONOTONIC VARIATION OF THE ANGLE OF ROTATION OF THE RADIO WAVE POLARIZATION PLANE Φ SUB Φ , THE POLAR REGIONS ARE CHARACTERIZED BY A NONMONOTONIC CHANGE IN Φ SUB Φ AT DIFFERENT TIMES OF DAY, REGARDLESS OF SATELLITE ALTITUDE. THIS NONMONOTONIC VARIATION OF Φ SUB Φ INDICATES THAT THE POLAR IONOSPHERE CONTAINS EXTREMELY STRONG INHOMOGENEITIES OF ELECTRON CONCENTRATION DURING BOTH DAYTIME AND NIGHTTIME. MEASUREMENTS WERE CONVERTED TO THE TOTAL NUMBER OF ELECTRONS IN A VERTICAL COLUMN OF THE IONOSPHERE OF A UNIT CROSS SECTION (N SUBO). THE N SUBO VALUES WERE USED IN CONSTRUCTING DAILY CURVES OF THE DEPENDENCE OF TOTAL NUMBER OF ELECTRONS IN A VERTICAL COLUMN AS A FUNCTION OF TIME OF DAY. THESE CURVES ARE FOR 64 DEGREES N AND S. CURVES WERE CONSTRUCTED ONLY FOR THOSE ORBITAL SEGMENTS INTERSECTING 64 DEGREES. THIS LARGELY EXCLUDED THE LATITUDE EFFECT. IN BOTH HEMISPHERES THE N SUBO MAXIMUM WAS AT APPROXIMATELY THE SAME TIME, ABOUT 1400 LT.

UNCLASSIFIED

3/3 043

UNCLASSIFIED

PROCESSING DATE--02DCT70

CIRC ACCESSION NO--AP0109656

ABSTRACT/EXTRACT--DURING THE COURSE OF THE DAY N SUBO IN THE SOUTHERN HEMISPHERE CHANGES BY A FACTOR OF ABOUT 4. THIS CANNOT BE ATTRIBUTED TO DIFFERENCES IN SATELLITE ALTITUDE SINCE IN ALL CASES IT WAS ABOVE THE F2 MAXIMUM. THE DIFFERENCE CAN PROBABLY BE ATTRIBUTED TO THE DIFFERENCE IN SEASONS IN THE TWO HEMISPHERES. DURING LOW ACTIVITY N SUBO IN THE POLAR LATITUDES IS APPROXIMATELY THREE TIMES LESS THAN DURING HIGH ACTIVITY. IN THE MIDDLE LATITUDES THESE CHANGES ATTAIN A FACTOR OF 7. DURING BOTH HIGH AND LOW ACTIVITY N SUBO IN THE MIDDLE LATITUDES IS 1.5-2 TIMES GREATER THAN IN THE POLAR REGIONS.

UNCLASSIFIED

USSR

UDC 629.12.011.002:621.78.012.2

MISYUROV, I. P.

Bezopasnost' Truda pri Gazoplamennoy Obrabotke Metallov v Sudostroyenii
(Accident Prevention During Gas-Flame Treatment of Metals in Ship Building),
Leningrad, 1972, 96 pp

Translation:

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USSR

MISYUROV, I. P., Bezopasnost' Truda pri Gazoplamennoy Obrabotke Metallov v Sudostroyenii, 1972, 96 pp

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MISYUROV, I. P., Bezopasnost' Truda pri Gasoplamennoy Obrabotke Metallov v Sudostroyenii, 1972, 96 pp

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USSR

UDC 621.791.629.128

MISYUROV, I. P.

"Status and Prospects for Development of Welding Production in Ship Building"

Kiev, Avtomaticheskaya Svarka, No 12, 1972, pp 38-41.

Abstract: A survey is presented of methods and trends used in welding of ship structures in the USSR. Important trends for the near future will include standardization of structural units and elements, increased automation and mechanization of the welding process, centralized supply of electric current, gasses, water and compressed air to welding locations, use of program-controlled plasma cutting machines, use of high purity oxygen and inclined cutting heads, and improvement of automatic one sided welding of bulkheads.

1/1

USSR

UDC 612.824

MCHEDLISHVILI, G. I., MITAGVARIYA, and ORMOTSADZE, L. G., Pathophysiology Division, Institute of Physiology, Academy of Sciences, Georgian SSR, Tbilisi

"Determination of Resistance in Large and Small Cerebral Arteries Using an Adequate Mathematical Model"

Leningrad, Fiziologicheskii Zhurnal SSR imeni I. M. Sechenov, No. 4, 1971, pp 575-583

Abstract: The purpose of the work was to devise a mathematical model capable of utilizing information readily obtainable in physiological experiments for the determination of resistance in the blood vessels that play a major role in regulating cerebral blood flow. The model is based on the quantitative relations existing between hemodynamic resistance in the main brain arteries and arteries on the periphery of the circle of Willis and the pressures measured in the aorta, circle of Willis, and venous sinuses. It was assumed that the relative viscosity of the blood remains constant and that resistance to the blood flow changes only after changes in the lumens of the blood vessels. The model was used in experiments on dogs subjected to asphyxia, injection of norepinephrine and serotonin, change in perfusion pressure, and occlusion of the

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USSR

MCHEDLISHVILI, G. I., et al., Fiziologicheskii Zhurnal SSR imeni I. M. sechenov,
No 4, 1971, pp 575-583

the cranial vena cava. The results were consistent with those of physiological studies conducted on changes in the lumens of cerebral arteries under the same conditions.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SYNTHESIS OF POLYMERS BY LOW TEMPERATURE POLYCONDENSATION -U-

AUTHOR--(04)--KORSHAK, V.V., VINOGRADOVA, S.V., VASNEV, V.A., MITAISHVILI,

~~TeLe~~
COUNTRY OF INFO--USSR. M

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(5), 1113-17

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, CONDENSATION REACTION, POLYESTER RESIN,
AMIDE, CHLORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1373

STEP NO--UR/0459/70/012/005/1113/1117

CIRC ACCESSION NO--AP0135047

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
 CIRC ACCESSION NO--AP0135047
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF ET SUB3 N TO MIXTS.
 OF CLCORCOCL (R IS P-C SUB6 H SUB4 OR (CH SUB2) SUB10) WITH ACCH SUB2
 CO(CH SUB2) SUB8 COCH SUB2 AC, (P-ACCH SUB2 COC SUB6 H SUB4) SUB2 O,
 ACCH SUB2 CO SUB2 (CH SUB2) SUB6 O SUB2 CCH SUB2 AC, P-HOC SUB6 H SUB4 O
 SUB2 CCH SUB2 AC, OR P-HOC SUB6 H SUB4 NHCOCH SUB2 AC DISSOLVED IN
 DICHLOROETHANE, PHNO SUB2, OR ACETONE GAVE 44-90PERCENT YIELDS OF
 POLYESTERS OF GENERAL STRUCTURE (CORCO SUB2 CME DOUBLE BOND CHCOR PRIME1
 COCH DOUBLE BOND CMEO) SUBN OR POLYESTER AMIDES OF STRUCTURE (CORCO SUB2
 CME DOUBLE BOND CHCOXC SUB6 H SUB4 O) SUBN (X EQUALS O OR NH).
 POLYCONDENSATION OF BIS(4, (CHLOROCARBONYL)PHENYL)PHTHALIDE WITH
 BIS, (4, CARBOXYPHENYL)PHTHALIDE (I), H SUB2 O, OR P-C SUB6 H SUB4 (CO
 SUB2 H) SUB2, OR OF P-C SUB6 H SUB4 (COCL) SUB2 WITH I OR H SUB2 O, ALL
 IN THE PRESENCE OF ET SUB3 N, GAVE POLYANHYDRIDES OF GENERAL STRUCTURE
 (COR PRIME2 CO SUB2 COR PRIME3 CO SUB2) SUBN OR (COR PRIME2 CO SUB2)
 SUBN. THE REACTIONS WERE PERFORMED AT TEMPS. BELOW 40DEGREES. REDUCED
 VISCOSITIES OF THE POLYESTERS AND POLYESTER AMIDES WERE 0.06-0.33 DL-G
 AND OF THE POLYANHYDRIDES 0.08-0.42 DL-G. FACILITY: INST.
 ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 519.2

MITALAIUSKAS, A.

"A Theorem on the Rate of Convergence to a Stable Law"

Lit. mat. sb. (Lithuanian Mathematics Collection), 1972, 12, No 1, pp 199-206 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V38 [author's abstract])

Translation: The sequence of independent random quantities $\{\xi_k\}$, $k=1, 2, \dots$ with distribution function $F(x)$ is considered. Let $G_\alpha(x, \lambda)$ be a stable-law distribution function with characteristic index $\alpha \neq 1$, and

$$F_n(x) = P\left\{n^{-\frac{1}{\alpha}} \sum_{k=1}^n \xi_k < x\right\}.$$

The following theorem is proved. If

$$\int_{-\infty}^{\infty} x/d [F(x) - G_\alpha(x)] = 0$$

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USSR

MITALAUSKAS, A., Lit. mat. sb., 1972, 12, No 1, pp 199-206

for $i \leq m - 1$, and

$$v_m = \int_{-\infty}^{\infty} |x|^m |d[F(x) - G_{\alpha}(x)]| < \infty$$

for some whole number $m \geq 1 + [\alpha]$, then for all natural numbers n

$$\sup_x |F_n(x) - G_{\alpha}(x)| \leq c(\alpha, m) \frac{m \max\left(v_m, v_{\frac{1}{1+m}}\right)}{n^{\frac{\alpha}{m}}}$$

UDC: 519.21

USSR

MITALAIUSKAS, A.

"A Theorem of the Rate of Convergence to a Stable Law"

Vil'nyus, Litovskiy Matematicheskiy Sbornik, vol 12, No 1, 1972, pp 199-206

Abstract: This paper considers the sequence $\{\xi_k\}$, $k = 1, 2, \dots$, of independent random quantities with the same distribution function $F(x)$. Let $G_\alpha(x, \lambda)$ be the distribution function of the stable law with the characteristic index $\alpha \neq 1$ and parameter λ . The following "pseudomoments" are then introduced:

$$\mu_i = \int_{-\infty}^{+\infty} x^i d[F(x) - G_\alpha(x, 1)]$$

for integral, nonnegative i ; also introduced are the following "absolute pseudomoments":

$$\nu_r = \int_{-\infty}^{+\infty} |x|^r |d[F(x) - G_\alpha(x, 1)]|$$

1/2

-USSR-

MITALAUSKAS, A., Litovskiy Matematicheskiy Sbornik, vol 12, No 1, 1972, pp 199-206

for all $r \geq 0$, and it is assumed that $F_n(x) = P\left\{n^{-1/\alpha} \sum_{k=1}^n \xi_k < x\right\}$.

This paper is based on an earlier article by the same author in the same journal (11, 3, 1971, pp 627-639) in which he obtained an estimate, in terms of the pseudomoments, of the residual term in the integral limit theorem for the case of the convergence of $F_n(x)$ to the stable law. The present paper shows that the method used in the earlier article can be used to obtain a more general result. The author, associated with the Lithuanian SSR Institute of Physics and Mathematics, asserts that the theorem stated and proved in the present article is confirmed.

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USSR,

MITALAUSKAS, A. A.

"Estimate of Residual Term in an Integral Limit Theorem in the case of Convergence to a Stable Rule"

Lit. mat. sb. [Lithuanian Mathematics Collection], Vol 11, No 3, 1971, pp 627-639, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1971, Abstract No 3 V25 by the author).

Translation: A sequence of independent, identically distributed random quantities ξ_1, ξ_2, \dots , is studied, for which the absolute pseudo moment of order $\kappa = 1 + [\alpha]$

$$V_{\kappa} = \int_{-\infty}^{\infty} |x|^{\kappa} d(F(x) - G_{\alpha}(x))$$

is finite. Here $F(x) = P\{\xi_k < x\}$, $G_{\alpha}(x)$ is the distribution function of the stable rule. Suppose

$$F_n(x) = P\left\{n^{-\frac{1}{\alpha}} \sum_{k=1}^n \xi_k < x\right\}.$$

USSR

MITALAIUSKAS, A. A., Lit. mat. sb., Vol 11, No 3, 1971, pp 627-639.

It is proven that where $\alpha \neq 1$ for $n \geq 1$, the following estimate obtains:

$$\sup_x |F_n(x) - G_\alpha(x)| \leq c(\alpha) \frac{\max\left(v_x, v_x^{1+\alpha}\right)}{n^{\frac{\alpha}{1+\alpha}}}$$

USSR

UDC 616-002.5-07-039.12

POSPELOV, V. V., MITAUER, L. Kh., and BEGLYAROVA, N. T., Kharkov Oblast
Tuberculosis Clinic

"Reasons for the Late Detection of Tuberculosis in Kharkovskaya Oblast"

Moscow, Problemy Tuberkuleza, No 12, 1971, pp 6-9

Abstract: Retrospective analysis of the case histories of 202 tuberculosis patients revealed that the main cause of the delay in diagnosing the disease was poor organization of occupational physical examinations: 75 persons (37.1%) employed in schools, restaurants, livestock farms, etc. did not receive the routine annual or semiannual checkups during the year prior to detection of the disease. In 26 cases (12.9%), general practitioners were delayed too long in referring the people for X-rays or consultation with a specialist. The latter was responsible for a wrong diagnosis in 12 cases (6%), while the roentgenologist failed to observe pathological changes on the X-rays in 4 cases (2%). Both factors were responsible in 13 cases (6.4%). Thus, doctors were to blame for late detection of the disease in 64.4% of the cases. An unusual course of the disease was the cause in 63 patients (31.2%), most of whom were suffering from infiltrative-pneumonic tuberculosis in the phase of caseous degeneration. In only 9 cases (4.4%) were the patients

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USSR

POSPELOV, V. V., et al., Problemy Tuberkuleza, No 12, 1971, pp 6-9

themselves to blame because of apparent indifference to their health and failure to see a doctor despite chest pains, high fever, and so forth.

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AA0040724

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Mitayshvili, T.I.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, /-X

243829 POLYESTERS are conventionally prepared by polycondensation of dicarboxyl chlorides with diols. Now the latter are bis- β -diketones or diacetoacetate diols. The products are readily soluble in the usual organic solvents and their structures are easily modified. In an example, 0.845 g. bis-(4-acetoacetyl)diphenyl oxide are dissolved in 12.5 ml. dichloroethane at 50°C. 0.70 ml. triethylamine and 1.028 g. 4,4'-diphenylphthalidodicarboxyl chloride are added. After 2 hrs. stirring the polyester is precipitated with 100 ml methanol. It is filtered, washed with water and methanol and vacuum-dried at 40°C. Yield 90%. 28.3.68. as 1229484/23-5, VAGNEV, V.A. et al. Inst. E. Org. Cpds. (1.10.69) Bul. 17/14.5.69. Class 39c, Int Cl. C 08g. 1

19750371

AA0040724

AUTHORS: Vasnev, V. A.; Vinogradova, S. V.; Mitayshvili, T. I.;
and Korshak, V. V.

Institut Elementoorganicheskikh Soyedineniy AN SSSR

19750372

USSR

UDC 616.986.7-08

PLETNEV, V. M., MITCHENKO, I. K., and SLOBODYANYUK, M. I., Chair of Infectious Diseases, Kiev Institute of Advanced Training of Physicians

"Treatment of Different Forms of Leptospirosis"

Kiev, Vrachebnoye Delo, No 10, 1971, pp 149-152

Abstract: Leptospirosis can be divided into the febrile, cardiovascular, and hepatorenal forms on the basis of the main symptoms and treatment should be differentiated accordingly. Antibiotics and vitamins are fairly effective in the febrile form, but the cardiovascular forms require in addition cocarboxylase, glucose, and in some cases cardiac stimulants. Hormones should be prescribed with great caution. Patients with the hepatorenal form are given antibiotics, hormones (prednisolone, hydrocortisone, etc.) theophylline ethylenediamine (Diaphylline) in addition to antihemorrhagic agents. In severe cases where coma is present or threatens, vigorous efforts should be made to relieve acidosis, normalize water-mineral metabolism, and correct hypokalemia.

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UDC 616.986.7-07

USSR

MITCHENKO, I. K., PLETNEV, V. M., and SLOBODYANYUK, M. I., Chair of Infectious Diseases, Kiev Institute for the Advanced Training of Physicians, Kiev

"Some Clinical Characteristics of Leptospirosis"

Kiev, Vrachebnoye Delo, No 6, Jun 71, pp 138-142

Abstract: A study was conducted of cases of leptospirosis treated in recent years at the Clinic of Infectious Diseases of the authors' institute. The majority of patients were infected by contact with water during swimming or fishing, some of them worked at animal husbandry farms, and one of them (the only one who was infected in the winter) worked at a meat combine. In the 18 cases studied, leptospirosis was confirmed by isolation of *Leptospira* or by the agglutination-lysis reaction with various *Leptospira* strains, *L. pomona*, *V. bataviae*, *L. canicola*, and *L. icterohaemorrhagiae* in 3, 4, 3, and 4 cases respectively). The clinical manifestations of leptospirosis were manifold. An ictero-nephritic syndrome was present in the majority of cases (17 of 18). The feverish, cardiovascular, and hepatorenal forms of the disease were observed in 9, 4, and 5 patients, respectively. The neuromuscular apparatus of patients was affected with the result that myocarditis developed in some cases, so that observation for prolonged periods of time after the end of

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USSR

MITCHENKO, I. K., et al., Vrachebnoye Delo, No 6, Jun 71, pp 138-142
hospitalization was necessary. The worker at the meat combine died on the
ninth day of the disease after myocarditis and azotemic uremia had developed.
Pathological anatomical investigation confirmed that myocarditis, necrotic
nephritis, and anuria were present.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--SOME CLINICAL ASPECTS AND DIAGNOSIS OF DYSENTERY -U-
AUTHOR-(03)-MITCHENKO, I.K., NENIKOVABOGDANOVICH, A.I., KUBASOV, I.G.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 146-149
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DYSENTERY, DRUG TREATMENT, ANTIBIOTIC, SULFA DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1023

STEP NO--UR/0475/70/000/005/0146/0149

CIRC ACCESSION NO--AP0126661

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 016

CIRC ACCESSION NO--AP0126661
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A STUDY OF 200 PATIENTS WITH DYSENTERY IS PRESENTED. THE DIAGNOSIS WAS CONFIRMED BACTERIOLOGICALLY IN 150 PATIENTS (B. SONNEI, IN 132; B. FLECHSNERI, IN 18). THE FORM WAS MILD IN 60.5PERCENT, AVERAGE SEVERE IN 36.5PERCENT AND SEVERE IN 3PERCENT. THE TREATMENT WAS CARRIED OUT BY COMBINING ANTIBIOTICS WITH SULFANYLAMIDE PREPARATIONS. MODERN DYSENTERY IS CHARACTERIZED BY MILD ATYPIC COURSES. THERE WAS NO TRANSITION OF DYSENTERY INTO THE CHRONIC FORM.
FACILITY: KIYEVSKOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

1/2 019
UNCLASSIFIED
PROCESSING DATE--23OCT70
TITLE--COLLATERAL CORONARY BLOOD FLOW FOLLOWING ADMINISTRATION OF
HOMFOTHIN COMBINED WITH ANTIHISTAMINIC DRUGS -U-
AUTHOR--(03)-GUBAREV, YE.A., PICHUGIN, V.V., MITCHENKO, P.P.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELO, 1970, NR 6, PP 25-26
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HEART, BLOOD CIRCULATION, DOG, DRUG EFFECT, ANTIHISTAMINIC
DRUG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/0339

STEP NO--UR/0475/70/000/006/0025/0026

CIRC ACCESSION NO--AP0127920

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 019

CIRC ACCESSION NO--AP0127920

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ACUTE EXPERIMENTS ON 34 DOGS
INDICATE THAT COMBINATION OF THE CARDIAC GLYCOSIDE HOMOFOTHIN WITH
DIMEDROL IMPROVES THE COLLATERAL CORONARY BLOOD CIRCULATION, WHEREAS THE
COMBINATION OF THIS GLYCOSIDE WITH DIPRAZINE WEAKENS THE
CORONARODILATING EFFECT OF HOMOFITHIN.
FARMAKOLOGII KURSKOGO MEDITSINSKOGO INSTITUTA.

FACILITY: . KAFEDRA

UNCLASSIFIED

USSR

UDC: 621.397.61(088.8)

NOTKIN, L. R., MITEL'MAN, L. V.

"A Device for Shaping and Monitoring a Code Combination of Radio Pulses"

USSR Author's Certificate No 275120, filed 21 Nov 67, published 4 Nov 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D306 P)

Translation: A device is proposed for shaping and monitoring a code combination of radio pulses. The device contains high-frequency oscillators, adders, a detector, and an oscilloscope display. To simplify the process and the circuit when monitoring appreciably different amplitudes of the radio pulses in the code combination, the above-mentioned adders are grouped in such a way that radio pulses of similar amplitude are sent to the inputs of each of them. The outputs of the adders are connected to the inputs of a multiple-input balancing module which is connected at the output directly to the network comprising the detector and the oscilloscope display. One of the outputs of the balancing module on which the code combination of the required form appears is connected to the load. V. P.

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USSR

UDC: 621.373(088.8)

MITEL'MAN, L. V.

"A Frequency-Mark Generator"

USSR Author's Certificate No 264480, filed 7 Apr 67, published 19 Jun 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A400 P)

Translation: The proposed generator is one of those which contain a quartz-crystal oscillator, a wobulator, an RC network for shaping the central mark, and an LC network for shaping the side blips. As a distinguishing feature of the patent, the proposed generator uses a mixer in a special circuit with channel separation. The use of two channels enables separate control of the shape and amplitude of the central mark and the side blips as well as an improvement in shaping precision. E. L.

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USSR

UDC 621.394.14

KULIKOVSKIY, L. F., MOROZOV, V. K., ALEKSANDROV, O. P., MITEL'MAN, M. B.,
Kuybyshev Polytechnical Institute imeni V. V. Kuybyshev

"A Device for Compressing and Transmitting Textual Data With Coding by Word"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 36, Soviet Patent No 288021, class 21, filed 7 Jul 69, published
3 Dec 70, pp 50-51

Translation: This Author's Certificate introduces a device for compressing and transmitting textual data with coding by word. The device contains an input register, a converter-encoder, control logic circuits, and an output puncher. As a distinguishing feature of the patent, the data traffic handling capacity of the communications channel is increased by connecting the above-mentioned encoder to some inputs of the shift register, while its input is connected to other inputs of the shift register through switches which are controlled from an AND circuit and are connected to the encoder outputs. The output of the shift register is connected to the puncher through a series-parallel output register.

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UDC 531.55:521.1

USSR

MALANIN, V. V., MITEL'MAN, S. YE.

"Toward the Motion of an Apparatus With a Solar Sail in a Central Gravitational Field"

Uch. zap. Perm. un-t (Scientific Notes of Perm' University), 1971, No. 239, pp 263-273 (from RZh-Mekhanika, No 9, Sep 71, Abstract No 9A66)

Translation: The equations of motion of a cosmic apparatus (within the framework of the dynamics of a material point) were solved for motion with a constant angle of setting of the sail, for motion in a circular orbit, and for transfer between coplanar orbits. Certain problems of optimal motion are discussed. S. R.

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USSR

UDC 632.95

SPIRIDONOV, YU. A., SHCHEGLOV, YU. V., SPIRIDONOVA, G. S., MITESHEV, A. I.,
KHOKHLOV, P. S., BLIZNYUK, N. K., All-Union Scientific Research Institute
of Phytopathology

"A Desiccant"

USSR Author's Certificate No 296545, filed 16 Oct 69, published 10 May 71
(from RZh-Khimiya, No 1(II), Jan 72, Abstract No 1N457 P)

Translation: Substances of the general formula $\text{ROC(S)SCH}_2\text{COOSn(R')}_3$ (I),
where R = C_2 - C_4 -alkyl, R' = C_3 - C_4 -alkyl or aryl are proposed as desiccants.
When introduced into the soil in a dose of 10 kg/ha before seeding, compounds
I have no noticeable effect on plants, but when the same dose of the com-
pounds is used for treatment in the vegetative stage, they cause wilting or
death. G. A. Belyayeva.

1/1

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Acc. Nr: **AP0044156**

Ref. Code: UR 0244

PRIMARY SOURCE: Voprosy Pitaniya, 1970, Vol 29, Nr 1,
pp 20-23 *m*

CHANGES IN THE ACTIVITY OF SOME CARBOHYDRATE METABOLISM ENZYMES
IN SCORBUTIC GUINEA PIGS

I. P. Mitev, M. S. Kharizanova, A. M. Angelov, A. M. Kryshkova,
(Plovdiv, Bulgaria)

Summary

The activity of the aldolase, glucose-6-phosphate-dehydrogenase, lactate-dehydrogenase, sorbitol-dehydrogenase and aspartate-aminotransferase enzymes were investigated in the liver and kidneys of scorbutic guinea pigs. A tendency towards reduced activity of nearly all enzymes was observed, except for that of sorbitol-dehydrogenase which was rising. The author associates these changes with diminished glucose cleavage in the course of glycolysis and pentose cycle, this being compensated for by the scorbutic organism by means of the glucose conversion into fructose through the sorbitol-dehydrogenase reaction.

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REEL/FRA
19770637

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USSR

UDC 518.512.85

ALESHIN, A. G., and MITICHENKO, G. A.

"Problem of Solving Algebraic Equations"

Tr. Poltav. s.-kh. in-t (Transactions of the Poltava Agricultural Institute),
No 15, 1971, pp 127-130 (from Referativny Zhurnal -- Matematika, No 7,
July 71, Abstract No 7b902)

Translation: The problem of applying the theory of graphs to solving certain algebraic equations is examined. An example of the solution of a determinant is given.

Authors' Abstract

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USSR

UDC 621.371.029.55

MITIKHIN, Yu. V. and PERTSOVSKIY, R. A.

"Investigating Distributions of Radio Signal Amplitudes in an Auroral Shortwave Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 1 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 1--collection of works) "Nauka," 1972 pp 464-467 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A346)

Translation: Results are given of an investigation into the amplitude distribution of signals in the shortwave range over distances in auroral perturbed zones. The method of constructing histograms for various conditions of signal fading, especially in the presence of ionospheromagnetic perturbations and under conditions of signal propagation through the E ionosphere region, is described. The existence of strong signal fading, especially in the presence of ionospheric-magnetic perturbations and with propagation of the signal through the E region of the ionosphere, is established.

A. L.

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USSR

UDC [621.357.5.035.4.:621.79.027]:669

KHRISTO, MITIKOV AND SVETOZAR, KOLEV

"Flotation Method for the Removal of Residues From Electrolytes Used in the Electrochemical Treatment of Metals"

Mashinostroyeniye (Machine Construction), 21, No 8, 1972, pp 351-352 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L349 by A. D. Davydov)

Translation: A study was carried out on a process, using the flotation principle, for purifying electrolytes (10% solution of NaCl) during the electrochemical sizing treatment. The flotation system is described. The effectiveness of the purification using different PAV [expansion unknown]. The optimum concentration of selected PAV was determined. (Composition of the PAV was not given).

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USSR

UDC: 621.384.664

GORIN, Yu. P., DENISOV, S. P., ~~MITIN, A. A.~~, STOYANOV, D. A., SYTNIK, V. V.,
Institute of High-Energy Physics, Serpukhov

"A Target for Precise Measurements of the Cross Sections of the Interaction
of Particles With Protons and Deuterons"

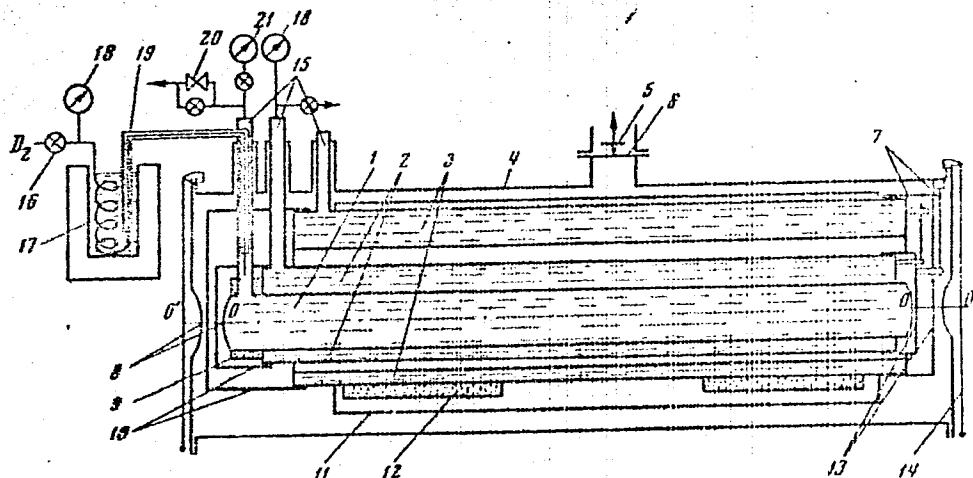
Moscow, Priory i Tekhnika Eksperimenta, No 2, Mar/Apr 72, pp 29-31

Abstract: The paper describes the design and gives the characteristics
of a target used for measuring the complete cross sections of interaction
of pions, kaons, and protons with protons and deuterons on the accelerator
at the Institute of High-Energy Physics in Serpukhov. A diagram of the
target is shown in the figure. The target is made entirely of stainless
steel, with the exception of the shields and windows. The operating pro-
cedure for determining interaction cross sections is described. Measure-
ment errors are analyzed. One figure, bibliography of four titles.

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USSR,

GORIN, Yu. P. et al., Pribory i Tekhnika Eksperimenta, No 2, 1972, pp 29-31



1--working space, 2--guard space, 3--nitrogen volume, 4--vacuum jacket, 5--knife, 6--diaphragm, 7--cables, 8--mylar windows, 9--zeolite, 10--copper shields, 11, 13--aluminized mylar shields, 12--activated charcoal, 14--plumb line, 15--filler tubes, 16--valve, 17--coil, 18--manometric vacuum meter, 19--siphon, 20--safety valve, 21--reference instrument.

UDC 621.383.8

USSR

M
MITIN, A. A., SOFIYEV, G. N.

"Low-Noise Preamplifier Using Field-Effect Transistors"

Moscow, Pribory i tekhnika eksperimenta, No 4, July-August, 1970, pp 74-75

Abstract: The transistors in the preamplifier circuit described in this article are domestically produced, and were designed to replace the Texas Instrument Company's 2N3823 device which figured in both domestic and foreign papers dealing with this type of preamplifier. The article begins with a brief description of the Soviet field-effect transistor, giving its technical specifications and curves of the averaged volt-ampere characteristics for the n-channel device. As for the circuit, a schematic of which is given, it was originally designed as the amplifier in a device for obtaining the spectra of soft gamma and x-rays derived from the high energy resolution of high-quality semiconductor detectors. The characteristic noise of the preamplifier containing the Texas Instrument device was from 0.9 to 1.8 kev, and with external capacitance inputs, 0.05 to 0.08 kev/pf. Similar results were obtained with the domestic transistors. The article also offers an explanation of the preamplifier circuit operation, and gives the results of tests conducted with. The circuit uses two field-effect transistors and two ordinary transistors. In concluding, the

USSR

MITIN, A. A., et al., Pribory i tekhnika eksperimenta, No 4, July-August 1970,
pp 74-75

the authors express their gratitude to V. G. Brovchenko for checking the
manuscript and for his valuable comments.

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DETECTION OF ELECTRON BY SURFACE BARRIER SILICON DETECTORS
AGAINST BACKGROUND OF GAMMA RAYS OF COMPARABLE ENERGY -U-
AUTHOR-(03)-MAKSIMENKO, B.P., BEZMELNITSYN, V.N., MITIN, A.A.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. (USSR); 28: 71-3 (JAN 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SEMICONDUCTOR DETECTOR, CONVERSION ELECTRON SPECTRUM, GAMMA
BACKGROUND, SILICON SEMICONDUCTOR, COBALT ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0225

STEP NO--UR/0089/70/028/000/0071/0073

CIRC ACCESSION NO--AP0105301

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 016

CIRC ACCESSION NO--AP0105301

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SURFACE BARRIER SILICON COUNTER WITH A 40 TIMES 40 MM NAI(TL) CRYSTAL WAS USED FOR SPECTROMETRIC STUDIES OF ELECTRONS USING A PRIME57 CO SOURCE EMITTING 14, 122, AND 136 KEV GAMMA QUANTA AND ELECTRONS OF INTERNAL CONVERSION WITH 115 AND 129 KEV ENERGIES. THE RESULTS SHOWED THE COUNTER WAS EFFECTIVE IN RECORDING THE ELECTRONS UNDER CONDITIONS OF A STRONG BACKGROUND FIELD OF GAMMA RADIATION.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ATTEMPT TO USE MATHEMATICAL METHODS IN THE INVESTIGATION OF THE
STRENGTH OF PRECIPITATES -U-
AUTHOR-(02)-KLIMOV, YU.M., MITIN, B.A. *m*
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 458-460
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PRECIPITATION TEST, POLYACRYLAMIDE RESIN, FLOCCULATION,
MECHANICAL STRENGTH, ALUMINUM SULFATE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2141 STEP NO--UR/0069/70/032/003/0458/0460
CIRC ACCESSION NO--AP0125724
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125724

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MATHEMATICAL METHODS OF PLANNING
EXPERIMENTS AND DATA PROCESSING HAVE BEEN USED FOR THE INVESTIGATION OF
THE STRUCTURE STRENGTH OF PRECIPITATES FORMED AFTER TREATMENT OF MUDDY
WATERS WITH ALUMINUM SULFATE WITH THE USE OF FLOCCULANTS OF THE
POLYACRYLAMIDE TYPE. FACILITY: N-I I PROYEKTNYY INSTITUT
STROITEL'NYKH MATERIALOV, CHELYABINSK.

UNCLASSIFIED

USSR

UDC 536.46:533.6

YELYUTIN, V. P., MITIN, B. S., SAMOTEYKIN, V. V.

"Effect of High-Temperature Oxidation on the Ignition Characteristics of Slightly Dispersed Aluminum Powder"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 241-244 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B940)

Translation: An expression for the oxidation rate of slightly dispersed particles in the induction period is proposed on the basis of experimental studies made of aluminum oxidation. The expression obtained is used in calculations for the limiting conditions for ignition of aluminum as a function of particle size. The computational results are compared with data of other authors. Authors' abstract.

1/1

USSR

UDC 546.623-31:537.311

YELYUTIN, V. P., MITIN, B. S., and NAGIBIN, Yu. A., Moscow Institute of Steel and Alloys

"Electric Conductivity of Liquid Aluminum Oxide"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 7, No 5, May 71, pp 880-881

Abstract: An experimental determination of the electric conductivity of liquid aluminum oxide in the range of temperature from the melting point to 2800°C is described. Measurements were carried out in a vacuum and in a purified helium atmosphere by a voltmeter-ammeter with a molybdenum measuring cell. The experimental setup and measuring technique are briefly described. The results show that the values of the specific electric conductivity in a vacuum and in helium are the same. The electric conductivity increases with temperature while the activation energy of ion migration decreases with temperature, and in magnitude corresponds to the activation energy of silicate melts. It is concluded that $Al_2O_3 \rightarrow AlO_2 \rightarrow AlO^+$ is the most favorable scheme of liquid Al_2O_3 dissociation.

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- 2 -

USSR

UDC 546.824-31

MITIN, B. S., and NAGIBIN, Yu. A., Moscow Institute of Steel and Alloys

"The Properties of Liquid Titanium Dioxide"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 7, No 5, May 71, pp 814-816

Abstract: An experimental determination of the density, viscosity, and surface tension of a liquid, analytically pure, titanium dioxide in the temperature range from melting to 2600°K is presented. Viscosity was measured in a vacuum not higher than 1×10^{-4} mm Hg and in a purified argon atmosphere by the method of damping torsional vibrations. The obtained experimental data made it possible to establish the dependence of the dynamic viscosity logarithm on the inverse temperature. The dependence was shown to be exponential.

The calculated activation energy of the viscous flow of a liquid titanium dioxide is equal to 32.4 kilocalorie/mol. The free activation energy of a viscous flow was calculated by the Eyring formula and its dependence on temperature was plotted. The values of surface tension were calculated by $1/2$

USSR

MITIN, B. S., and NAGIBIN, Yu. A., Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 7, No 5, May 71, pp 814-816

formula $\sigma = 1/4 Fv/\pi R$, where R is the cylinder mean radius; F is the separation force of the cylinder from the liquid surface; and V is the Vershafelt correction determined from cylinder parameters or graphically. The analytical dependence of surface tension on temperature is expressed by the equation $\sigma = 355 - 0.174 (T - 2125^\circ K)$.

Aluminum and Its Alloys

UDC 546.621'21:532.612.4

USSR

YELYUTIN, V. P., MITIN, B. S., and NAGIBIN, Yu. A., Moscow Institute of Steel and Alloys

"Method for Measuring the Temperature Coefficient of Surface Tension of Liquid Aluminum Oxide"

Moscow, Zavodskaya Laboratoriya, No 2, 1971, pp 194-196

Abstract: It is proposed that the temperature coefficient of surface tension of molten aluminum oxide be measured by the method of breaking away a membrane or a hollow cylinder. A function characterizing the temperature dependence of surface tension of liquid aluminum oxide was established. The mean square error of the experiment is + 3.5%.

USSR

UDC 669.71:669.046.42.001

YELIUTIN, V. P., MITIN, B. S., and SAMOTYKIN, V. V., Moscow

"Effect of Oxygen Pressure on Aluminum Oxidation"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 3, May-Jun 71, pp 227-230

Abstract: A detailed description is given of an experimental setup developed with the purpose of studying the kinetics of oxidation manometrically. Measurements were carried out on pure (99.99%) aluminum samples at 520, 550, 570, 620, and 650°C at pressures from 6 to 200 torr. Kinetic characteristics of oxidation at various temperatures and pressures make it possible to study the initial oxidation section and to evaluate the process during the experiment. It is shown that the oxidation rate increases with temperature according to the Arrhenius law, with activation energy of $35 \pm$ kilocal/mol, and that the oxidation rate decreases with increasing oxygen pressure at 650°C and in the range of pressure from 6 to 200 torr. The parabolic oxidation constant is expressed by the formula: $K = 19.5p^{-1/n}$ where $n = 2.34$ and p is the oxygen pressure.

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1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DENSITY OF MOLTEN ALUMINUM OXIDE -U-
AUTHOR--(02)-MITIN, B.S., NAGIBIN, YU.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1325-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--FLUID DENSITY MEASUREMENT, ALUMINUM OXIDE, TEMPERATURE
DEPENDENCE, MELTING POINT, PHASE TRANSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1423 STEP NO--UR/0076/70/044/006/1325/1326
CIRC ACCESSION NO--AP0135097
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135097

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. A HYDROSTATIC WEIGHING METHOD WAS USED FOR THE DETN. OF TEMP. DEPENDENCE OF THE D. OF MOLTEN AL SUB2 O SUB3 IN THE TEMP. RANGE FROM THE M.P. OF AL SUB2 O SUB3 TO 2550DEGREES. MEASUREMENTS WERE PERFORMED BOTH IN A VACUUM OF 10 PRIME NEGATIVE 4 TORR AND IN AN ATM. OF AR. RESULTS FIT (PLUS OR MINUS 3PERCENT ERROR) THE LINEAR EQUATION $\gamma = 3.04 - 1.15 \times 10^{-3} T$ (T MINUS 2030DEGREES), WHERE γ IS THE DETD. D. OF MOLTEN AL SUB2 O SUB3 AND T IS THE TEMP. MOLAR VOLS. OF MOLTEN AL SUB2 O SUB3 WERE CALCD. FOR ALL TEMPS. STRONGLY MARKED CHANGE OF THE MOLAR VOL. OF AL SUB2 O SUB3 AT ITS M.P. GAVE EVIDENCE FOR THE PROFOUND STRUCTURAL TRANSFORMATION AT THE TRANSITION OF AL SUB2 O SUB3 FROM THE SOLID TO THE LIQ. STATE.

FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--23OCT7
TITLE--DETERMINATION OF DIFFUSION PARAMETERS IN MOLYBDENUM-TANTALUM AND
TUNGSTEN-TANTALUM SYSTEMS -U-
AUTHOR--(03)-IVANOV, A.N., KRASILNIKOVA, G.B., MITIN, B.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1), 204-6

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--MOLYBDENUM ALLOY, TANTALUM ALLOY, TUNGSTEN ALLOY, REFRACTORY
METAL, METAL SINGLE CRYSTAL, METAL CASTING, METAL FORGING, METAL
DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1545

STEP NO--UR/0126/70/029/001/0204/0206

CIRC ACCESSION NO--AP0120324

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT

2/2 030

CIRC ACCESSION NO--AP0120324

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE OF THE MUTUAL
DIFFUSION COEFF. OF W-TA WAS DETD. AT 2100-500DEGREES AND THAT OF MO-T/
AT 1900-2300DEGREES. THE SPECIMENS WERE SINGLE CRYSTAL W, CAST MO, AND
FORGED TA.

FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.762.2:669.5

MITIN, I. I., SOKOLOV, M. A., KHAVSKIY, N. N., PREOBRAZHENSKIY, N. A., YAKUBOVICH, I. A., KIRILLOV, O. D.

"Obtaining Zinc Powder by an Acoustic Eddy Disperser"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultrasound in Metallurgical Processes — collection of works), Moscow Steels and Alloys Institute, 67, Moscow, 1972, pp 149-151 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G403)

Translation: A new procedure is described for obtaining finely dispersed Zn-powder from a melt using an eddy acoustic pneumatic atomizer. Two illustrations.

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- 31 -

USSR

UDC 621.762.002.5

~~MITIN, I. I.~~, KHAVSKIY, N. N., SOKOLOV, M. A., KIRILLOV, O. D., YAKUBOVICH, I. A.,
~~PREOBRAZHENSKIY, N. A.~~

"Acoustic Vortex Disperser to Obtain Finely Dispersed Metal Powders"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultrasound in Metallurgical Processes -- collection of works), Moscow Steels and Alloys Institute, 67, Moscow, 1972, pp 171-173 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 4G424)

Translation: A description of an acoustic eddy atomizer used to obtain finely dispersed metal powders is presented. One illustration.

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USSR

UDC 621.762.01

MITIN, I. I., KIRILLOV, O. D., KHAVSKIY, N. N., SOKOLOV, M. A., YAKUBOVICH, I. A.,
PREOBRAZHENSKIY, N. N.

"Problem of Using Sound Vibrations in Powder Metallurgy"

V sb. Primeneniye ul'trazvuka v metallurg. protsessakh (Application of Ultra-
sound in Metallurgical Processes -- collection of works), Moscow Steel and
Alloys Institute, 67, Moscow, 1972, pp 147-149 (from RZh--Metallurgiya, No 4,
Apr 72, Abstract No 4G387)

Translation: The prospects for using sound vibrations in powder metallurgy are
demonstrated. 4-entry bibliography.

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- 32 -

ELECTRONICS

Amplifiers

USSR

UDC 621.396.61.029.64

MITIN, I. M. 

"Calculating the Optimal Operating Conditions of a Wide Band Superhigh Frequency Tetrode Power Amplifier"

Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi.
Vyp 3. (Materials of the Scientific and Technical Conference. Leningrad
Electrotechnical Communications Institute. Vyp. 3), Leningrad, 1970, pp
115-121 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D298)

Translation: This article contains an investigation of a tetrode superhigh frequency power amplifier with single resonators in the input and output oscillatory circuits. The conditions of obtaining the highest values of the power amplification coefficient and efficiency for a given frequency pass band are analyzed. Relations are obtained for calculating the optimal operating conditions of the amplifier. There is one illustration and a two-entry bibliography.

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USSR

UDC 621.385.6

M
MITIN, I.M.

"On Optimization Of The Parameters And Operating Conditions Of A Broad-Band Microwave Tetrode (Triode)"

V sb. Materialy nauchno-tekhn. konferentsii. Leningr. elektrotekhn. in-t svyazi. Vyp. 3 (Materials Of A Scientific-Technical Conference. Leningrad Electrical Engineering Institute Of Communications. No 3 -- Collection Of Works), Leningrad, 1970, pp 121-126 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A110)

Translation: In a microwave tetrode (triode) the requirement for decreasing the transit angle is found to be at variance with the requirement for a small equivalent capacitance of the resonator. Relations are obtained which determine the inter-electrode spacing grid-cathode and grid-anode, the area of the electrodes, the operating conditions, and the parameters of the oscillatory system, with which the best indices are assured for a broad-band microwave amplifier (generator). Summary.

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ELECTRON MICROSCOPIC HISTOCHEMISTRY (SOME ASPECTS OF MODERN
FUNCTIONAL MORPHOLOGY) -U-
AUTHOR--MITIN, K.S. *M*
COUNTRY OF INFO--USSR
SOURCE--ARKH. PATOL. 1970, 32(1), 9-21
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--CELL PHYSIOLOGY, MITOCHONDRION, HISTOCHEMISTRY, CELL MEMBRANE,
ELECTRON MICROSCOPY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0001 STEP NO--UR/9056/70/032/001/0009/0021
CIRC ACCESSION NO--AP0105101

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105101

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW ON PREPN. OF MATERIAL FOR ELECTRON MICROSCOPY (FIXATION AND MOUNTING), HISTOCHEM. REACTIONS (TABULATED ARE 14 ENZYMES), AND ON THE FUNCTIONAL MORPHOL. OF CELL ULTRASTRUCTURE (NUCLEUS, MEMBRANES, ENZYMES OF CELLULAR MEMBRANES, MITOCHONDRIA, LYOSOMES, AND CYTOGRANULES). FACILITY: MOSK. MED. INST. IM. SECHENOVA. MOSCOW, USSR.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--IMMUNOMORPHOLOGY OF EXPERIMENTAL GLOMERULONEPHRITIS IN THE LIGHT OF
GENERAL PATHOLOGIC PROCESSES -U-
AUTHOR-(05)-SEROV, V.V., MITIN, K.S., VARSHAVSKIY, V.A., UFIMTSEVA, A.G.,
TOMILINA, N.A.
COUNTRY OF INFO--USSR
SOURCE--ARKH. PATHOL. 1970, 32(1), 29-40
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMMUNOLOGY, NEPHRITIS, RAT, SERUM PROTEIN, ALBUMIN, URINE,
MITOCHONDRIUM, ENZYME ACTIVITY, DEHYDROGENASE, CYTOPLASM, PHOSPHATASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/0474

STEP NO--UR/9056/70/032/001/0029/0040

CIRC ACCESSION NO--AP0117710

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0117710

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMMUNOMORPHOL. OF NEPHROTOXIC NEPHRITIS WAS STUDIED ON 75 YOUNG RATS AT VARIOUS STAGES OF THE DISEASE BY BIGCHEM., HISTOCHEM., ELECTRON MICROSCOPIC, AND IMMUNOFLOUORESCENT METHODS. TOTAL BLOOD SERUM PROTEIN IN INTACT RATS WAS 6.38 G PERCENT, IN RATS ON THE 2ND-3RD DAYS OF THE ACUTE STAGE 3.8 G PERCENT, ON THE 4TH-12TH DAYS 5.2 G PERCENT, AND IN RATS WITH CHRONIC NEPHRITIS (31-122 DAYS) 5.65 G PERCENT; ALBUMIN WAS 38.86, 25.1, 27.8, AND 31.1PERCENT, RESP. PROTEIN IN THE URINE WAS 0, 2.27, 260, AND 0.097PERCENT, RESP. ELECTRON MICROSCOPY SHOWED STRONGLY VACUOLIZED CYTOPLASMA IN THE PROXIMAL TUBULES AND SWOLLEN MITOCHONDRIA WITH DESTROYED CRISTS AND VACUOLES. DESTRUCTION OF MITOCHONDRIA WAS ACCOMPANIED BY DECREASED ACTIVITIES OF SUCCINIC AND MALIC DEHYDROGENASES, NAD AND NADP DIAPHORASES, AND INCREASED ACTIVITY OF LACTIC DEHYDROGENASE. OTHER HISTOL. ALTERATIONS WERE ACCOMPANIED BY DECREASED ALK. PHOSPHATASE AND ITS DIFFUSION INTO THE CYTOPLASMA. LYSOSOMIC ACTIVITY WAS PROVEN BY A STRONG INCREASE OF HYDROLASES, ESP. ACID PHOSPHATASE. ALTERED ENZYMIC ACTIVITIES OF THE TUBULAR EPITHELIUM GAVE EVIDENCE OF SUPPRESSED CELLULAR RESPIRATION AND ACTIVATION OF GLYCOLYSIS AND HYDROLYSIS. IT WAS EMPHASIZED THAT THE GENERALLY ACCEPTED TERM GLOMERULONEPHRITIS DOES NOT REFLECT THE NATURE OF THE PHENOMENON. FACILITY: MOSK. MED. INST. IM. SECHENOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 619:576.809.518:576.858.2

BADAYEV, F. A., CHEVELEV, S. F., MITIN, N. I., ARKHIPOV, N. I., and
PERSHIN, G. N., All-Union Scientific Research Institute of Veterinary
Virology and Microbiology and All-Union Scientific Research Chemico-
Pharmaceutical Institute

"The Antivirus Activity of Synthetic Compounds"

Moscow, Veterinariya, No 6, Jun 73, pp 44-46

Abstract: Indolyl-3-propiohydroxamic acid (1), indolyl-3-acetohydroxamic acid (2), 2,4,6-trichlororesorcinol (3), 2,4,6-trichlorophloroglucinol (4), 2,4,6-tribromophloroglucinol (5), N-(o-tolyl)-N-cyanoethylaminobenzoquinone (6), tetrahydrotetraoxonaphthalene dihydrate (oxolin) (7), beta-indolyl-propionic acid (8), and beta-indolylbutyric acid (9) inhibited to 98.4% of more the propagation of the virus of Aujeszky's disease in a cell culture. The prophylactic and therapeutic activities of (1), (2), (3), and (7) and the prophylactic activity of (4), (5), (6), (7), and (8) in connection with the experimental infection of rabbits with the virus were studied. A prophylactic activity was exhibited by (1), (3), and (8): 16.6-40% of the infected rabbits that had been treated with these compounds survived, whereas all of 1/2

- 85 -

USSR

BADAYEV, F. A., et al., Veterinariya, No 6, Jun 73, pp 44-46

the controls died. A slight therapeutic effect was exerted by (2) and (6): the rabbits treated with (2) died 7 days later than controls, while one out of three animals treated with (7) survived. (1), (3), and (8) were also tested in connection with experiments in which sheep were infected with Aujeszky's disease. These compounds had a slight therapeutic effect on the sheep.

2/2

MITIN, R.V.

Rm1 / 18.16.0/5.H.V.13
10.0.72

100

Pryedkin, K. K., R. V. Mitin, and N. N. Klimov.
Electrodeless discharges in xenon at pressures to 40 atm. IN:
Fizika plazmy i protsessy upravlyayemogo termoyadernogo
sintesa. Kiyev, Izd-vo Naukovo dumka, no. 1, 1971,
226-230.

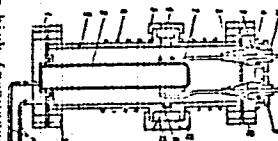


FIG. 1. Sketch of discharge chamber with external support.
1 - lower flange; 2 - stable metallic chamber; 3 - quartz tube; 4 - cooling coil; 5, 11, 13 - nut; 6, 15 - connection ports; 7 - HF generator; 8 - tetlon seal; 9 - quartz seal; 10 - tetlon insulator; 12 - upper flange; 14 - projection camera; 16 - lightening rod; 17 - connection pipe.

Electrodeless high-frequency discharges in xenon, at pressures to 40 atm were studied and the possibility of generating such discharges at still higher pressures was demonstrated. A fractional radiant energy loss in the overall discharge energy balance was determined as a function of discharge power and chamber pressure within the interval of 0.1 - to 40 atm. The maximum radiated power achieved at pressures of 5 to 40 atm was about 3.5 kw and the maximum light flux was about $1.5 \cdot 10^5$ l. Two discharge chamber structures were used: a thick-walled quartz chamber cooled by air or water, and a water-cooled chamber with an external support, illustrated in Fig. 1. Experimental procedures are outlined and results are plotted.

MITIN, R. V.

RND / 18.06.1973 101
 18.06.73
 II. PLASMA DYNAMICS

Petrenko, V. I., R. V. Mitin, Yu. R. Knyazev,
 and A. V. Zvyaginsev. High-current pulsed arc
in hydrogen at pressures to 400 atmospheres.
 IN: Fizika plazmy i problemy upravlyayemogo
 termoyadernogo sinteza. Kiyev, Izd-vo Naukova
 dumka, no. 1, 1971, 205-212.

Experiments in initiating a high pressure pulsed discharge
 in hydrogen to generate and investigate properties of a dense hydrogen
 plasma are discussed. The experimental device comprised a high-
 pressure discharge chamber, a thermo-compressor and condenser
 batteries. The discharge chamber was a thick-walled cylindrical
 metal vessel, designed for a maximum operating pressure of 1000 atm.
 The chamber had three diagnostic windows for conducting optical, photo-
 graphic and other observations; chamber gas volume was about 1 liter.
 The thermocompressor maintained the required system pressure, and a
 liquid nitrogen coolant ensured a chamber hydrogen pressure of 500 atm.
 The pulsed discharge was initiated using a 0.7 mm copper wire between
 electrodes fitted with tungsten terminals as shown in Fig. 1. The condenser



Fig. 1. Discharge configuration
 1 - tungsten inserts; 2 - cathode cap;
 3, 4 - electrodes; 4 - plasma

USSR

UDC 534

MITIN, V. N., SHTEYNVOL'F, L. I.

"Synthesizing Vibration Systems with Forced Oscillations"

V sb. Konf. po kolebaniyam mekh. sistem. Tezisy dokl. (Conference on Vibrations of Mechanical Systems. Topics of Reports--collections of works), Kiev, Naukova Dumka Press, 1971, p 58 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11A151)

Translation: A study was made of the problem of synthesizing discrete dissipative systems during single-frequency periodic disturbances by the criterion of the given restriction on the peak amplitudes. The problem is solved in the most general statement where the excitation frequency can have any value on the entire numerical axis.

Two theorems are proved which permit reduction of the solution of the given problem to the problem of one-sided buildup to the right for a conservative vibration system obtained from the initial system in the absence of dissipation and external effects.

The discussed theory remains correct when the restrictions are imposed not on the amplitudes of the oscillations or deformations but on the magnitudes of the elastic forces or stresses.

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USSR

UDC 669.71.018.9.4

GOGIN, V. B., MAKAROV, G. S., MITVOL', L. S., MITIN, V. P.

"Some Problems of Processing a Melt of Aluminum Alloys in a Vacuum"

Metalloved. splavov legkikh met. -- V sb. (Physical Metallurgy of Alloys of Light Metals -- collection of works), Moscow, Nauka Press, 1970, pp 87-91 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G204)

Translation: Results are presented from degassing alloys based on aluminum in a six-ton vacuum mixer. Mixing the liquid bath during the evacuation process reduces the H content in the melt. It is necessary to select the vacuum treatment parameters beginning with the presence of volatile components in the alloys. There are 5 illustrations, 2 tables, and a 6-entry bibliography.

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USSR

UDC 669.716:621.745.55:66.067

GOGIN, V. B., MAKAROV, G. S., MITVOL', L. S., and MITIN, V. P.

"Some Problems in the Vacuum Processing of the Melt of Aluminum Alloys"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970,
pp 87-91, resume

Translation: Results of degassing aluminum alloys in a vacuum holding furnace of 6 tons capacity are presented. It was found that mixing the liquid bath in the vacuum evaporation process decreases the hydrogen content in the melt. It is demonstrated that the selection of the parameters of vacuum processing must be made proceeding from the presence of highly volatile components in the alloys. Five figures, two tables, six bibliographic references.

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USSR

UDC: 621.315.592

KOCHELAP, V. A. and MITIN, V. V.

"Conductive Anisotropy and Intertrough Redistribution in Doped Semiconductors at Low Temperatures"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol. 4, No. 6, 1970, pp 1051-1053

Abstract: The Sasaki effect, which includes the phenomena of conductive anisotropy and intertrough redistribution, has been theoretically investigated by several authors (the first paper on the effect was apparently published in the J. Phys. Soc. Japan, 11, 1956, p 1202, by W. Sasaki and M. Shioya). The present paper, however, is the first devoted to examination of the Sasaki effect in alloyed semiconductors at low temperatures when the intratrough (per pulse) and intertrough electron dispersions are strongly doped. Moreover, the effect may differ quantitatively as well as qualitatively from other cases under these conditions. The semiconductors considered by the authors are n-type germanium. To obtain the quantitative characteristics of the Sasaki effect, the authors assume that the electron energy relaxes into acoustical phonons, collisions with optical phonons being negligible at low temperatures. Also, under the assumption that the characteristic times of the transitions between troughs are much higher than all other

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USSR

KOCHELAP, V. A., et al, Fizika i Tekhnika Poluprovodnikov, Vol. 4, No. 6, 1970,
pp 1051-1058

intratrough relaxation times, the authors take into account the dispersion in the impurities and the lattice in pulse and intertrough relaxation. Then, the electrons in each trough form carrier groups, to a large extent independent, which permits comparing each trough to its distribution function. The authors express their gratitude to Z. S. Gribnikov for his guidance and to I. M. Dykman for his useful comments.

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USSR

UDC 547.964.3

SHELYKH, G. I., VLASOV, G. P., and MITIN, Yu. V., Institute of High Molecular Compounds, Acad. Sc. USSR, Protein Institute Pushchino

"Synthesis of Peptides by Means of Derivatives of Arenesulfenic Acids and Trivalent Phosphorus Compounds. IV. Synthesis Using Water-Soluble Reagents"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 369-372

Abstract: A series of trivalent phosphorus derivatives with P-N, P-C, and P-O bonds, containing a labile amino group was synthesized. It was shown that they could be used with bis-(p-dimethylaminophenyl) disulfide in the synthesis of peptides. The use of tris-(p-dimethylaminophenyl)phosphine leads to chromatographically pure peptides in good yields, requiring no special purification steps. The synthesis of peptides by this method may be carried out with derivatives of serine, thyrosine, asparagine, and glutamine without the preliminary protection of functional groups. The degree of racemization was determined by the Anderson test.

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UNCLASSIFIED

SECTION IV

Sci: Selected Neurological Research

PC5-27
JUNE 1971

Protein Research Institute, Pushchino

biochemistry

(U) During this quarterly reporting period, two new articles were located from the Protein Research Institute at Pushchino. On the basis of one of the articles, which dealt with escherichia coli ribosomes, it was possible to associate one new person, N. I. Smirnov, with the Institute (32). The other article, also on escherichia coli, was issued jointly from the Institute of Genetics and Selection of Microorganisms, Moscow, and the Protein Research Institute at Pushchino (33). Previous articles by V. I. Parnogorov have been issued from the former Institute. No previous facility association could be located for V. D. Vasil'yev, but it is likely that he represents the latter Institute. This article probably represents some joint work between the two Institutes.

(U) As a ready source of reference, given below is a complete listing of personalities identified with the Protein Research Institute to the present time:

NI - biochemistry

<u>Beloslav, N. V.</u>	<u>Pyvalov, E. I.</u>
<u>Bershteyn, T. M.</u>	<u>Pilitsyn, O. B.</u>
<u>Chirgadzov, Yu. M.</u>	<u>Rachevskaya, Ye. P.</u>
<u>Fedorov, B. A.</u>	<u>Serdnyuk, I. M.</u>
<u>Finkel'shteyn, A. V.</u>	<u>Smirnov, N. I.</u>
<u>Ginskaya, O. V.</u>	<u>Spirin, A. S.</u>
<u>Lavrilova, L. P.</u>	<u>Tikopulo, Ye. I.</u>
<u>Mitina, Yu. V.</u>	<u>Vasil'yev, V. D.</u>

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1 INCI ACCIDENT

USSR

UDC 577.1:612.12.015

MURASHOV, B. F., MARKIZOVA, N. F., MITINA, A. P.

"Functional State of the Hypophyseal-Adrenal System Under the Effect of Small Doses of Ionizing Radiation"

Sb. nauch. rabot. Voen.-med. fak. pri Kuybyshev. med. in-te
(Collected Scientific Works. Military Medicine Department,
Kuybyshev Medical Institute), 1971, No 3, pp 101-105 (from
RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F1606)

Abstract: The authors studied some indices of the functional state of the hypophyseal-adrenal system in 52 persons working under conditions of long-term exposure to small doses of x-rays (roentgenologists, x-ray technicians, petroleum well loggers, and also persons who have worked under conditions of constant exposure to phosphors for 5-10 years). It was found that the investigated group of people is characterized by a certain reduction of daily elimination of 17-ketosteroids and 17-hydroxysteroids in the urine, as well as a reduction in the effect of an ACTH injection on these indices. These changes were more pronounced in men than in women. No appreciable anomalies were observed in
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USSR

MURASHOV, B. F., et al, Sb. nauch. rabot. Voen.-med. fak. pri
Kuybyshev. med. in-te, 1971, No 3, pp 101-105

the exchange of electrolytes in the contingent studied. According to the data of biological sampling (effect on concentration of ascorbic acid in the adrenal glands of a rat), the blood plasma of the studied group of people contains a high quantity of ACTH.

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